

Washington State
Digital Archive

QA Progress Report

Period 2: June – July, 2004

Presented to:

Office of the Secretary of State

Archives and Records Management Division

Submitted by:

GlassHouse Technologies, Inc.



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1. Summary

This is the second QA progress report for Phase I of the Digital Archives project as defined within the QA Plan dated May, 2004. The QA activities tracked for the report are related to the technology related aspects of the Digital Archives project only. Please refer to the QA Plan for definitions and other details on the QA process. This report will discuss a time period of approximately 60 days in length and covers events from June 1, 2004 through July 31, 2004.

June - July Summary

The summary is a high level account of the activities, remarks and risks identified during this period. Please refer to specific sections within this report for further details and elaborations.

- It was agreed that the October 4th Grand Opening of the Digital Archives would be positioned as a "live beta" version of the application. The "production" version of the application, also referred to as Step 2, would be operational by the end of December, 2004.
- The Dell/EMC CX700 and related SAN hardware has been installed with the exception of the Tape Library.
- The tape library RFQQ was reissued and the vendor responses were reviewed. Based on analysis conducted by the OSOS team, two finalists, Overland and ADIC, were asked to participate in vendor interviews to determine the final selection of the tape library solution.
 Interviews will be conducted on August 3rd, 2004 and the outcome will be reported on the next QA progress report.
- The contract with IP connectivity vendor, CenturyTel was finalized and installation and testing
 was completed on July 27th. The contract with Qwest is nearing completion and should not have
 any impact to the project.
- The contract with the application developer, Microsoft Corporation, was completed and approved by the Office of Financial Management on July 6th. Application development has commenced and is following a Microsoft created project plan. The application is divided into two deliverable segments. Phase I, step 1 is represented by a "live beta" delivery on October 1st, 2004. The Phase I, step 2 production version is targeted for December, 2004.
- The current budget estimates for this project are on target and slightly below the amount estimated in the Digital Archives Investment Plan. No concerns are noted at this time.
- Three of the five positions (Network administrator, Database manager, Web master) have been filled. The Electronic Records Manger applications are being review and the Archives Assistant position is being re-classified prior to posting.



- The Digital Archives facility in Cheney will be in final preparations through out the summer for the Grand Opening scheduled on October 4th.
- During the QA site inspection of the data center at the Digital Archives facility on July 13th, 2004, no major risks were uncovered. It was agreed that, as of this inspection, the data center is in accordance with industry best policies and practices from a physical layout perspective.
- The physical layout of the tape library was not included in the review as it has not yet been purchased or installed.
- The major risks from the previous report were attenuated as follows:
 - The project plan was finalized with comprehensive details of task associations to help mitigate project impact or issues due to any milestone slippage.
 - The OSOS team created an acceptable proof of concept test from which to test the new SAN design prior to live operation. The plan was executed by the vendor during the SAN installation.
 - The initial archive application scheduled for demonstration on October 4th will be considered a "live beta" version rather than "production" with an agreed element of risk and error acceptance. Microsoft will complete the full application version as planned by the close of 2004 with full functionality as defined in the functional specification documents provided as part of the signed contract.
- Finally, a potential for risk was identified during this period. From a high-level is:
 - o If the tape library and backup software implementation as well as the tape rotation procedures are not complete by the time the application is regularly adding and changing data by December, 2004, then there will be a data loss risk should the disk array fail.
 - This concern is expected to be addressed during the next reporting period once the tape solution is purchased and rotation procedures completed.
- The next reporting period will be from August 1, 2004 through September 30, 2004.



2. Financial Status

The project budget is an aggregate of components that were previously defined in the Digital Archives Investment Plan. The following chart shows the current expenditures versus budget for the Digital Archives project.

BUDGET CATEGORY	Investment Plan Estimate	Current Estimate (as of July)	Current Estimate: Expended/Obligated to Date		Current Est Un-obligated	
			\$	%	\$	%
Personal Services	\$332,750	\$1,069,912	\$1,069,912	100%	\$0	0%
Contracts		(Note #1)				
Hardware	\$13,044	\$45,652	\$8,000	18%	\$37,652	82%
Maintenance						
Software	\$247,889	(Note #2)				
Maintenance/upgrade						
Goods and Services	\$75,000	\$56,750	\$56,750	100%	\$0	0%
Hardware Purchase	\$1,238,472	\$1,052,704	\$881,382	84%	\$171,322	16%
Software Purchase	\$670,413	\$250,000	\$245,564	98%	\$4,436	2%
TOTAL	\$2,577,568	\$2,475,018	\$2,261,608	92%	\$213,410	8%

2.1 Risks & Remarks

There are no major risks to the financials of the Digital Archives project for this report. However, there are notations that help to explain aspects of the recorded numbers. They are listed below.

The main outstanding hardware purchase is the tape library. Interviews with the top bidders are being conducted August 3, 2004. An award is anticipated the second week of August.

Overall, estimated expenditures are still slightly below (96%) of original Investment Plan estimates.

Note #1: Personal Services Contracts

This figure includes a \$90,000 QA contract entered into with GlassHouse on 4/2/04 and a \$979,912 contract with Microsoft/EDS, the selected vendor for custom development of digital asset management system. This reflects a shift from the original intent to purchase an existing commercial content management system to a personal services contract for custom development of a digital asset management system.

Note #2: Software Purchase and Software Maintenance/upgrade

There is no current estimate for software maintenance. This primarily is the result of the shift described above. In addition, first year maintenance for the off-the-shelf software that is being purchased is included in the purchase price. Maintenance and upgrade for the customized digital asset management system is included in the Microsoft contract.



3. QA Events

QA Events are listed in the sections below and form the basis for all QA reporting references. All 14 QA Events listed in the QA Plan are contained in this period report. QA Event #14, does not contain activities that have target dates or measurements falling within this reporting period or the next reporting period. However, it does contain information that was identified during this reporting period for future tracking. All dates referenced in the table are for the calendar year of 2004.

3.1 Program / Project management

Building on the Feasibility Study and Investment Plan already developed (which identified the overall goals and objectives for the project), this section involves the identification of key tasks, milestones, deliverables and resources needed to implement the technical aspects of the project, and will provide a mechanism for tracking progress (also includes identification of staff roles and responsibilities).

Milestone / supporting activity	Measurement Criteria	Result / Plan
Working sub groups and sub group leaders are identified.	April 9	12 sub group teams were identified on 4/9 with selected
leaders are identified.		team leaders.
Sub groups develop task lists and due	April 16	Task lists were developed 4/16
dates for integration into overall project		with integration into a plan taking
plan and timeline.		place on 4/26.
Sub groups are assigned partial or full	April 16	Completed and accomplished on
responsibility for completing the work		target date.
associated with each major QA event.		
An overall project timeline is	May 7	Project plan with documented
established that will be used to track		dependencies was completed in
progress.		June. Continuous updates will
		occur to manage project.

3.1.1 Risks & Remarks

Remark

The current project plan is an MS Project document and contains each of the major project event areas as defined in the QA Plan. The task inter-dependencies have been documented and combined into a comprehensive project plan for the OSOS team identifying critical path associations and due dates to manage and mitigate project slippage.

3.2 Communication plan

Identify and document the process that will be used to ensure that lines of communication are established that will facilitate the coordination within the agency and between the agency and all its partners as the project is implemented.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Documentation of communication process	April 16	This is identified for the QA process with the agency. Further communication processes are identified in the SOW with the application developer (Microsoft) and the MOUs to the participating agencies.
Weekly reviews of project status	Record of regular occurrence	Confirmation of weekly team meetings in June and July. QA provider receiving meeting notes at intervals.
Regular communication to participating agencies	 Evidence of participation in the process by other agencies (e.g. completion of MOU) Positive or negative perception in the process by other agencies. 	The MOUs for the three "beta" counties will be executed over the summer with a target date of August. The Agencies have already participated in a "proof of concept" test by sending a subset of their monthly data.
		The process for all remaining counties will be monitored throughout this project.

3.2.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.3 Facility preparation

Construction of the data center facility, located on the second floor of the new Digital Archives/Eastern Washington Regional Archives building in Cheney, WA, is complete. This task includes ensuring an appropriate and workable configuration of the control, network and tape library rooms. Also includes the planning for and installation of all data cabling, power connections and redundancy.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Facility build-out completed and agency approval	June 1Evidence of acceptance by agency	A Certificate of Occupancy indicating completion and agency acceptance was signed on May 21 st .
Facility ready to receive equipment	May 25	Complete
Cable connection plan completed	May 7	Completed on May 24.



Milestone / supporting activity	Measurement Criteria	Result / Plan
Control, network and tape library rooms configured	May 7Evidence of acceptance by agency	Complete. Visual inspection on May 24 th .
Generator and UPS in place and load tested	 May 25 Evidence of acceptance by agency 	Complete Load test of generator occurred the week of May 17. A commissioning report from Dumais Romans is pending receipt by agency. — Deficiencies have been identified and are work in progress. Not closed out yet. Anticipated in Sept.
Load test network	 Record outcome or result Evidence of acceptance by agency 	Installation and testing for copper and fiber optics – Complete and accepted Complete cabling test results have been received from Spokane Telephone and Data
Data center completed, including cabling	May 25Evidence of acceptance by agency	Complete. The servers have been installed. Fiber and copper runs to the servers have been installed and terminated.

3.3.1 Risks & Remarks

Remarks

There were no major risks identified based on the July 13th site inspection. The following are remarks noted during this period.

- While taking the UPS off line due to overheating in the datacenter, one of the two redundant battery systems blew a fuse and a few circuit boards. The Leibert technician located the problem to a pin hole rupture in one of the four capacitors. The cap was arching over to the next capacitor creating the short. All four capacitors have been replaced. Shutdown procedures were tested without any further problems. Also, since only one battery unit experienced the problem, the system was never without UPS backup due to the redundant UPS environment.
- There was a factory recall on a batch of circuit breakers used in the power distribution units. The
 Liebert technician shut down one Power Distribution Unit (PDU) at a time (the existing redundant
 units provided that there would not be an "outage") and confirmed that the breakers in the units
 were in the recalled batch and passed the inspection.

Based upon the redundancy of the UPS systems, any future failures should be accommodated by the redundant UPS unit.



Investigation into the amount of time that the generator/UPS can keep the data center running
during a power outage (including both power and cooling) is required. It is recommended that
some type of notification be generated which would allow the data center equipment to
automatically power down when there is less than one hour remaining for power/cooling.

3.4 Front end Servers (including network and infrastructure)

Configure and install file servers and network operating systems

Milestone / supporting activity	Measurement Criteria	Result / Plan
Purchase of routers, switches, file	May 19	Complete - Field order
servers and racks		number: F759051, F759033
Delivery of same	May 25	Complete. Received in June
Network access rights determined	May 4	Complete (July)
Installation	June 24	Completed July 9th
Connectivity testing	• June 25	LAN complete.
	Record outcome or result	WAN pending mid August.

3.4.1 Risks & Remarks

Remarks

Avnet completed the installation and configuration of the main network switch and firewalls. The switch has been configured to separate virtual LANS for system security. Avnet also completed configuring sub network switches for both staff and public networks.

3.5 B/U & X-platform software

Backs up all critical data and applications for disaster recovery and long term archival storage

Milestone / supporting activity	Measurement Criteria	Result / Plan
Purchase software	April 14	Completed – Field order number: F759052
Delivery of software	April 20	Complete
Installation	June 24	Awaiting completion
Testing	 Meets or exceeds back up and recovery windows (i.e. eight hours for back up and two hours for recover) Evidence of recovery 	Awaiting completion

3.5.1 Risks & Remarks

Remarks

The backup software will be installed at the same time as the Tape Library. Currently this is anticipated to occur during the September timeframe.



If the Tape Library is not in place for the "live beta" demonstration on October 4th, then backups will be accomplished temporarily by backing up to the extra disk on the SAN.

Risk

Due to the delays in purchasing a Tape Library solution, there is a potential for risk in the near future. Once data is being added and updated, and no longer contained to just the OS or application itself, there is a potential minor risk of backing up to disk should the entire disk array fail. Should the tape library, backup software, and off-site rotation of back up tapes not be in place by the time the system is in "production" mode (December 2004), then this risk will increase to major status.

Mitigation

The OSOS team is preparing to interview the two vendor finalists on August 3rd. Selection of the winning solution is anticipated to occur in August with purchase and contracts targeted for September. Since the initial data planned for the October 4th, "live beta" version of the Digital Archives is intended to not undergo changes or additions until later in the year, it is anticipated that a tape library solution will be in place to attenuate the potential risk described above. The next period report will provide further update to this concern.

3.6 Fiber Optics

Provides fiber optic Internet connectivity for the facility and provides for VoIP.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Negotiate and finalize contract	Contract in place	Complete
		The Century Tel contract for Internet connectivity ISP-Fiber Optic executed on June 21, 2004. Contract number is PS-2739
Test connections	100% connection validated	Completed on July 27 th .
	by vendor	

3.6.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.7 Phones and VolP

Ensures that the facility has phone service to support day-to-day operations as well as long distance service at a reduced rate and provide for security system monitoring.

Milestone / supporting activity	Measurement Criteria	Result / Plan
DSL install for temporary phones	April 20	Complete
Vendor selection for VoIP/fiber optic	• May 12	Complete
connection	Normal vendor selection	The VoIP service was bid in
	process followed	accordance with the informal bid process established by
		DIS. This purchased qualified
		for and followed rules that
		defined purchases of less than
		\$100,000 based on the state's
		biennial budget period (two years).
Negotiate & finalize contract	Contract in place	Qwest has been chosen as the
	•	successful vendor.
		0
		Some minor issues in the
		contract language has delayed signature.
		signature.
		The contract is anticipated to
		be in place by early to mid
Equipment delivered/phones installed	lung OF	August.
Equipment delivered/phones installed and tested	June 25 Record outcome or result	Awaiting completion. Target date for equipment delivery
and tested	Record outcome or result	changed to early to mid-August
Service available	July 2	Awaiting completion. Target
	Record outcome or result	date changed to August 20th

3.7.1 Risks & Remarks

There are no risks or additional remarks for this section.



3.8 SAN Hardware & Software

Installation of the Storage Area Network hardware and software to store and manage the data in the Digital Archives.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Vendor and product selection	 April 23 Normal vendor selection process followed 	Completed Vendors selected off of DIS Master Contract. (See previous report for further explanation if required) Received quotes from the top two off of master contract and determined – Dell/EMC CX700 selected.
Purchase	April 27	Completed – Field order number: F759108, F759109
Delivery	June 7	Complete on July 8th
Installation	June 25	Complete on July 8th
Integration and testing	 Disk proof of concept test developed including accepted benchmark criteria (i.e. performance). Pass proof of concept testing. (assumes simulation) 	A combination of vendor testing and an Agency created Test Plan will be performed. Vendor testing completed on July 8 and results received during data center review. The POC testing was also completed by the vendor.

3.8.1 Risks & Remarks

Remarks

There are no risks but there are some additional remarks for this section.

- Dell/EMC completed the installation and configuration of the CLARiiON cx700 and performed the following:
 - o Rack mounted and cabled the CLARiiON cx700.
 - o Rack mounted all fibre channel switches.
 - o Installed all HBA's and updated their Bios to the correct versions.
 - Installed and routed all fiber optic cables.
 - o Configured LUNS and fibre zones.
 - o Installed required Dell/EMC software for SAN management.
 - Configured server cluster pairs according to our specs.
 - Load tested SAN configuration and fail over of clustered servers.
 - Went over SAN configuration and trained on basic san operation and trouble shooting.
 - Answered any of our staff questions.
- The data center for the State of Washington Digital Archives, located in Cheney Washington, was reviewed on July 13th, 2004 by GlassHouse. Items reviewed included (but were not limited to) equipment positioning, cable labeling and tie-downs, cabinet locations, coding/coloring of different



cable types (e.g. fiber optic, copper), protection and "bend ratio" of fiber optics, and investigation of cooling/hotspots for all equipment that was powered up. The result of this review uncovered no major issues, and the data center, as of July 13th, 2004, is in accordance with industry best policies and practices from a physical layout perspective. It should be noted that this review did not include the tape library (not yet installed), nor the configuration of the installed hardware and software.

3.9 Tape Library

Provides backup to critical information and applications for disaster recovery and long term retrieval of electronic archival documents that are infrequently used and not stored on the SAN.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Issue competitive solicitation	May 7	Complete. OSOS revised RFQQ for re-release. Release date May 26
Select vendor and product	 May 17 Normal vendor selection process followed 	Two finalists were identified (Overland and ADIC). Vendor interviews will be held to determine tape solution. Decisions expected by Mid-August.
Negotiate and finalize contract	Contract in place	Awaiting completion Targeted for August – September timeframe.
Purchase	May 20	Awaiting completion
Installation	June 24	Awaiting completion
Integration and testing	 Tape proof of concept test developed including accepted benchmark criteria (i.e. performance). Pass proof of concept testing. (assumes simulation) 	Awaiting evidence of POC test development. Awaiting test completion and results

3.9.1 Risks & Remarks

Remark

- The Agency conducted interviews with the two finalist tape vendors. This facilitated meeting was
 held in Seattle. Glasshouse participated as an advisor to the Agency and provided domain
 expertise and led many discussion areas to flesh out the vendor solutions for the Agency.
- The same remark contained in the previous period report still applies: The delay in purchasing the tape library (and tape drives/media), caused by the revision and re-issuance of the Tape RFQQ, is not anticipated to cause any major risks. During the initial phases of the Digital Archives, there is expected to be available and unallocated disk space on the CX700 as well as non-SAN attached servers. Any backups required during the initial roll-out will be placed on this available



disk space until the tape library is in place.

As part of the tape vendor negotiation, it is recommended that OSOS discuss the level of proof of concept testing offered by the vendor to mitigate the issue discussed in the previous section 3.8 on SAN environment testing.

Risk

No major risks. See potential minor risk mentioned in section 3.5 B/U & X-platform software

3.10 Microsoft/EDS (BizTalk 2004& Application)

Development of archival software application, per agency specifications, that will accept specified digital assets into the Digital Archives, and provide for the search and retrieval of these assets via the web.

Phase I assets include one record series from all 39 counties; OSOS voter registration database, online historical records, web site spidering of OSOS web site and emails of ten executive level staff members; legislative policy documents.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Vendor selected through competitive solicitation process	April 1 Normal vendor selection process followed	Complete - Microsoft selected. The State's GA, Office of State Procurement established a pre-qualified vendor pool for IT for use by Washington State government agencies. The agency issued a Work Request to solicit bids from pre-qualified vendors. Two proposals were received and Microsoft was selected.
Negotiate and finalize contract	Contract in place	Complete – approved by OFM on July 6th
Collection of test records and metadata from 3 counties and OSOS	May 30 Evidence of acceptance by agency	Completed
Data input policy and procedure completed	 May 3 Document meets requirements Evidence of acceptance by agency 	MOU: OSOS is making some minor revisions to the boiler plate language per request by counties. Final execution (signature) of MOU is not delaying application development because the technical information from the exhibits has been given to Microsoft.



Milestone / supporting activity	Measurement Criteria	Result / Plan
Shopping basket functionality and integration with revenue system completed	June 30 Functionality meets requirements - Evidence of acceptance by agency	Documentation complete for MS on July 9 th Incorporation by MS due Mid-August
Beta version from MICROSOFT installed and tested	July 6th Functionality meets requirements - Evidence of acceptance by agency	Awaiting completion. Following final contract completion of July 6 th , Microsoft issued a project plan that currently shows no "Beta version" release for Phase I, step 1. It does show an interface demonstration of August 30.
Phase 1, Step one application from MICROSOFT	August 16th	Awaiting completion. Beta expected by Mid-August Final phase 1 completion by Dec.

3.10.1 Risks & Remarks

Remark

The contract has been signed and development begun on the application. A project plan for the application development has been broken into two distinct steps for Phase I. Step 1 outlines the development tasks to complete a version of the application for the October 4th Grand Opening of the Digital Archives. Step 2 outlines the remaining tasks for completion by the end of 2004 of all functionality outlined in the contact with Microsoft.

Since the ultimate goal is to complete Phase I by the end of 2004, this two part approach, in itself, does not constitute a "risk" from a technical aspect. However, the project plan for "Step 1" shows very little margin for error for a successful and functioning "Step 1" demonstration version of the application for the October 4th Grand Opening. This is illustrated by the plan showing final testing and Agency sign off concluding the week prior to the Grand Opening.

In addition, the functional specification document that Microsoft/EDS is following for application development, does not clearly delineate between what is anticipated for completion by October 4th verses the remaining functionality due for completion by December, 2004. This also does not constitute a pure technical risk, but does present a concern for the Agency as they plan for and set expectations around a successful Grand Opening.



3.11 Technical Staff

This section covers the hiring and training of the Digital Archives technical staff

Milestone / supporting activity	Measurement Criteria	Result / Plan
Network administrator position filled	April 20 Meets requirements for staff skill level or is temporary contractor	Complete Job description received 05/10.
Database manager position filled	 July 1 Meets requirements for staff skill level or is temporary contractor 	Complete Job description received 05/10. Started July 26th in Olympia for training, started Aug 9th in Cheney.
Web master position filled	July 1 Meets requirements for staff skill level or is temporary contractor	Complete Job description received 05/10. Accepted. Starts Aug 9th in Olympia for Training, starts Sept 1st in Cheney.
Archives Assistant position filled	July 1 Meets requirements for staff skill level or is temporary contractor	Awaiting completion. Recruiting on June 4 Job description received 5/28 Archives Assistant on hold until OSOS determines appropriate job classification
Electronic Records Manager position filled	July 1 Meets requirements for staff skill level or is temporary contractor	Awaiting completion. Recruiting on May 28 Job description received 05/10. Position closed and 15 applications under review. Target hire date is September 15 th .
Staff begin work in Cheney	May 25	Complete. Network Admin and Digital Archivist relocated to Cheney
Core Training plans developed	June 1	Awaiting completion Training plan is in draft. The training will depend on the skill set of the employee. The plan will stay draft until the resource is identified.
Core Training completed	 October 1 Evidence of acceptance by agency to the training plan. 	Awaiting completion



3.11.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.12 Install and Shakedown

This section covers the installation and operational readiness for all technical components and working with test counties to ensure system functionality and reliability

Milestone / supporting activity	Measurement Criteria	Result / Plan
Demo version from EDS installed and tested	 August 16 Record outcome or result Demo test plan/scenario developed including accepted benchmark criteria. Pass (assumes simulation) 	Based on the new application development plan provided by Microsoft, there will be no "alpha" version of the Phase I, Step 1 application. Test cases will begin creation in mid-August and are anticipated to run against the completed Step 1 application version in late September.
Ingest data from 3 counties and OSOS	September 15100% of the electronic records in the series	Awaiting completion. New date is targeted for the end of September
Archival software system fully operational	October 1Evidence of acceptance by agency	Awaiting completion. On plan according to Agency.

3.12.1 Risks & Remarks

There are no risks or additional remarks for this section.

3.13 Grand Opening

A formal and live demonstration of the accession of one local government records series (e.g. marriage records) into the Digital Archives from three volunteer counties.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Dry run successful for Grand opening	October 1	Awaiting completion. On plan according to Agency.
Grand opening completed	October 4	Awaiting completion. On plan according to Agency.

3.13.1 Risks & Remarks

Remark

See remarks contained in section 3.10 Microsoft/EDS (BizTalk 2004& Application).



3.14 Post Grand Opening, Phase I - Part 2.

Continuation of Phase I plan to include incorporating OSOS archival records and county marriage records into archival system and creation of documentation for agencies to develop 'best practices' in archiving electronic records in the Digital Archives.

Milestone / supporting activity	Measurement Criteria	Result / Plan
Acquire Memos of Understanding with remaining 36 Counties.	70% of participating counties	Pending
Creation of documented processes and procedures for sustained operation of Digital Archives	 September 30 Evidence of documented processes and SOP's. 	Documents identified during the July 13 th , 2004 data center review. See remarks below.
Creation of best practices documents.	December 30Evidence of documented best practices.	Documents identified during the July 13 th , 2004 data center review. See remarks below.
Accession of Legislative Policy documents into the Digital Archives	 Beginning November 30 Test plan followed with evidence of acceptance. 	Pending
Accession of up to 10 OSOS executive level staff e-mails	September 30Test plan followed with evidence of acceptance.	Pending
Accession of OSOS web site web- spidering	 September 30 Test plan followed with evidence of acceptance. 	Pending
Phase I complete	December 31st	Pending

3.14.1 Risks & Remarks

Remark

Based upon the onsite review by GlassHouse, the following data center best practices where discussed:

- Zoning
- LUN Masking
- Cache segregation
- FC/SATA Storage Fibre channel distribution and placement
- HBA microcode/firmware levels
- Phone home capabilities
- Physical Ops manual of checklist items
 - o Facilities policies and procedures
- High-level DR plan
- Navisphere network
- System/Storage Management Network
- Fault/Failure Alerts (how are the staff notified)
- Firecall List
- Problem Escalation Procedures
- Internal Change Control (including Code Escalation/Promotion process)
- Vendor Change Control
- SLA with vendors: Maintenance Agreements
- SLA with end users
- SLAs for partner agency's: MOU's
- Backup Policy and Procedures
 - VERITAS agents/features



- o Incremental/Differential/Fulls
- Daily/Weekly/Monthly
- Off-site Rotation
- o Off-site Rotation Vendor
- o Backup for Web and other servers outside the firewall
- Tape Duplication
- o Tape Volume Pools
- Current backup to disk (no tape library yet) Late August/Early September for any data the needs to be backed up.
- o Test / Validation plans

It was recommended by GH that these strategic, tactical, and operational policies and procedures be documented and put into effect prior to the Digital Archives first full production date. The OSOS team has agreed and accepted these best practices and noted that many of them are already in process. These will continue to be tracked in subsequent QA reports and will not be deemed a risk unless they are not completed and in place by the production date at the end of 2004.

